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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/630,256	07/31/2000	Christopher L. Hamlin	K35A0635	5608
26332	7590	01/12/2005	EXAMINER	
HENEGHAN, MATTHEW E				
			ART UNIT	PAPER NUMBER
			2134	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/630,256	HAMLIN, CHRISTOPHER L.
	<b>Examiner</b>	<b>Art Unit</b>
	Matthew Heneghan	2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 13 September 2004.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-14 and 17-32 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-14 and 17-32 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 31 July 2000 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4)  Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5)  Notice of Informal Patent Application (PTO-152)  
 6)  Other: \_\_\_\_\_.

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 September 2004 has been entered.
  
2. In response to the previous Office Action, Applicant has amended claims 1, 17, and 31; cancelled claim 15; and added claim 32. Claims 1-14 and 17-32 have been examined.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 17, 29, 30, and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,473,861 to Stokes.

As per claims 17 and 32, Stokes discloses a disk drive having a control system receiving I/O requests; internal authentication of I/O requests using passwords, etc.; the system is used to access encrypted data stored on the disk; and decrypting data for sending it back to the requestor (see column 5, lines 6-31). Any of the keys stored on the drive constitutes a "secret drive key."

As per claim 29, a servo is used to position the head as per authentication (see column 2, lines 20-25).

As per claim 30, the encryption algorithm inherently modifies the servo pattern according to the polynomial being used in conjunction with the key information.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 4, 7-14, 18, 20, 23-27, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,473,861 to Stokes as applied to claim 17 above, and further in view of U.S. Patent No. 6,823,398 to Lee et al.

Regarding claims 1, 2, 12-14, 18, and 31, Stokes does not disclose the storing of authentication on the disk, but instead discloses the storing of authentication information on an EEPROM.

Lee discloses the storing of security data on a section of the disk, which is not accessible to a user except by strong security protocols (see column 6, lines 15-20). This allows for various types of host systems without knowledge of the type of storage being used (see column 4, lines 45-48). It is noted that some types of encryption constitute a "strong security protocol."

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Stokes by storing the authentication information of the disk using a strong security protocol, such as encryption, as disclosed by Lee, as this allows for various types of host systems without knowledge of the type of storage being used.

Regarding claims 4 and 20, a password is a form of user authentication data.

Regarding claims 7-9 and 23-25, a data structure key is a form of message authentication data.

Regarding claims 10 and 26, a password is a type of message.

Regarding claims 11 and 27, a password is plaintext.

5. Claims 3, 6, 19, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,473,861 to Stokes in view of U.S. Patent No. 6,823,398 to Lee et al. as applied to claims 1 and 18 above, and further in view of Menezes, "Handbook of Applied Cryptography," 1997, pp. 500-501.

Though Stokes and Lee disclose the use of a strong security protocol, it is left open as to what security protocol may be used.

Menezes disclose the Kerberos secure challenge-response protocol, to be used between the user (A) and the disk drive (B), which includes a step for making the circuitry responsive to the decryption of response data (see step 4(d)).

Therefore it would have been obvious to one of ordinary skill in the art at the time was made implement the invention of Stokes and Lee by using Kerberos, as described by Menezes, as the requisite security protocol.

6. Claims 5 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,473,861 to Stokes in view of U.S. Patent No. 6,823,398 to Lee et al. as applied to claims 2 and 17 above, and further in view of U.S. Patent No. 4,757,434 to Matyas et al.

Stokes and Lee do not disclose a unique key for the disk written during manufacture.

Matyas discloses the writing of an encrypted serial number in a protected area as part of the manufacturing process (see column 8, lines 42-56), and suggests that this is done to discourage the copying of purchased software (see abstract).

Therefore it would have been obvious to one of ordinary skill in the art at the time was made implement the invention of Stokes and Lee by the writing of an encrypted serial number in a protected area as part of the manufacturing process, as disclosed by Matyas, to discourage the copying of purchased software.

### ***Response to Arguments***

7. Applicant's arguments, see Remarks, filed 17 September 2004, with respect to the rejection(s) of all the claim(s) under 35 U.S.C. 102 and 103 have been fully considered and are persuasive in view of Applicant's amendments. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the above cited art.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,930,358 to Rao discloses the formatting of a disk to allow encrypted partitions.

U.S. Patent No. 6,363,487 to Schneider discloses a disk having a protected area.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Heneghan, whose telephone number is (571) 272-3834. The examiner can normally be reached on Monday, Tuesday, Thursday, and Friday from 8:30 AM - 4:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse, can be reached at (571) 272-3838.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Or faxed to:**

(703) 872-9306

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MEH 

January 7, 2005



GREGORY MORSE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100